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figures. The ground is then to be reduced by planing or filing to the level of the depressed part; after which, the piece of wood being placed in water, either hot or cold, the parts previously depressed will rise to their former height, and will thus form an embossed pattern, which may be finished by the usual operations of carving.

No. III.

ENGRAVING ON STEEL PLATE.

IN the 41st volume of the Society's Transactions will be found a paper drawn up chiefly from information furnished by the late Mr. C. Warren, on the art of engraving on steel plate as distinguished from engraving on blocks of steel, which latter process was first reduced to practical utility by the skill of Mr. Perkins. The subject was again brought before the Society, during the last session, by an interesting communication from Mr. Turrell on the best menstruum for biting-in on softened or decarbonized steel, which communication is inserted in the present volume. The attention of the Society having been thus in an especial manner directed to the subject of engraving on steel, it was with great satisfaction that they found themselves enabled, through the liberality of R. H. Solly, Esq., one of the chairmen of the Committee of Polite Arts, to present to each member, together with the 42d volume, an impression from a decarbonized steel plate of a subject engraved in mezzotinto by that eminent artist C. Turner, Esq.

Mr. Solly's letter on the subject is subjoined, as well as an historical notice concerning this branch of art from the pen of Mr. Turner.

Sir, Great Ormond-street, June 1, 1824.

As the Society have materially contributed to promote the art of engraving on steel, and as their Transactions contain some valuable communications on preparing and etching upon steel plates, I thought a frontispiece* engraved on steel would be a very appropriate embellishment to the 42d volume of the Society's Transactions.

I requested my friend Mr. Charles Turner to engrave a plate for me on steel, from a picture painted by Sir Joshua Reynolds, a proof of which I have sent for the inspection of the Society; and, should it meet with their approbation, I shall have great pleasure in presenting them with impressions from the plate for their 42d volume.

I am, Sir,
&c. &c. &c.
R. H. Solly.

A. Aikin, Esq.
Secretary, &c. &c.

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* The committee being of opinion that the plate might be injured (on account of its size) if bound up in the volume, have resolved, that it be delivered to the members at the same time as the volume, but separate from it.

ON THE INVENTION, PROGRESS, AND ADVANTAGES OF THE ART OF ENGRAVING IN MEZZOTINTO UPON STEEL.

SIR, London, October 14, 1824.

THE discovery of a method of engraving in mezzotinto upon steel may be justly regarded as one of the most fortunate occurrences in the history of the graphic arts. In the infancy of this invention, as in that of almost every other, difficulties repeatedly presented themselves, but these have been successfully overcome; and the art, an outline of the gradual advance of which I am about to subjoin, may at present be considered as arrived at a state of full and vigorous maturity.

In the year 1812, that distinguished ornament and benefactor of his country, the late Mr. James Watt, suggested to me the possibility of engraving in mezzotinto upon steel; but all the attempts with which I immediately followed up the communication were unsuccessful. The hardness of the steel induced me to lay that metal wholly aside; and some experiments which I subsequently made upon plates of brass were attended with no better results: these latter substances were so unequal in their temper, that I found them quite unfit for my purpose.

It was not, therefore, till the very recent date, when Mr. Jacob Perkins, (whose indefatigable labours and extraordinary inventive powers are so well known and so highly appreciated), had produced blocks of steel soft enough to receive the impressions of our tools, and form a ground upon which we have been able to accomplish every thing required, that the art of engraving in mezzotinto upon steel can be said to have had its commencement.

In the month of January 1820, Mr. Say made an engraving on one of Mr. Perkins's blocks, and it was decidedly the best specimen then produced. In February 1821, I engraved a portrait on the first steel plate I ever saw. It had been given to me by the late Mr. Lowry, and it turned out so satisfactorily as to meet the approbation of Sir Thomas Lawrence.

On the 30th of May 1822, Mr. Lupton received the gold medal from your Society, for his admirable performance, the Infant Samuel. From the good fortune which has crowned the latter experiments, steel plates have obtained a decided preference over those of copper for engraving in mezzotinto; and the beautiful specimens now before the public, from the hands of Messrs. Ward, Reynolds, Say, Lupton, and other artists, require only to be seen to be admired.

In engravings in mezzotinto upon steel, the tones are far better defined than those obtainable upon copper. From the superior density of the former metal, the clearness of the lighter tints is carried to much greater perfection; and, from the same cause, the darks have also a decided preference, being distinguished by their superior richness. The advantages in these respects are so numerous, that all the deficiencies, which were formerly irremediable in mezzotinto engraving, are now entirely mastered; and the numerous difficulties with which the artist was always contending completely dissipated: although the process is much longer and more tedious on steel than on copper; yet, when completed, it is so perfectly satisfactory as fully to reward the additional labour. The instruments used in engraving in mezzotinto upon steel are precisely the same as those employed in engraving upon copper. When a deep black is required, twice the number of ways will be found desirable: from sixty to a hundred will not be too many. Steel plates are now so well prepared, and are become so common, that they are easily obtained by all who desire them; the best are those manufactured by Mr. Rhodes and Mr. Hoole of Sheffield, who have paid every attention to rendering them fit for the purpose of the artist: they may also be had of Mr. Harris, Shoe-lane, London.

I believe that I shall not be thought to entertain an erroneous opinion, when I express my belief that it is solely to the introduction of engraving upon steel into this country by Mr. Perkins that we are indebted for the present successful application of the same metal to the art of engraving in mezzotinto.

In conclusion, it may be serviceable to add a warning and receipt, which the novelty of the use of steel in the art of engraving somewhat imperiously requires:—Great care should be taken to save the steel from rust, which is done by warming the plate, and rubbing sheep's suet (from the animal) over it, and keeping it near a fire, or in a dry room; without this precaution much mischief will arise.

I am, Sir,
&c. &c. &c.
C. TURNER,
50, Warren-st., Fitzroy-sq.

A. Aikin, Esq.
Secretary, &c. &c.